

**Amendments to the Claims:** This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. (Currently Amended) An active pixel sensor array sampling system comprising:  
a video circuit that generates a video voltage from each pixel in a row of pixels; and  
a reference circuit that generates a respective unique reference voltage associated with each pixel in the row of pixels;  
wherein the video circuit comprises a plurality of video amplifiers, each video amplifier associated with a respective pixel in the row of pixels,  
the video amplifiers sample in series, one at a time, a video voltage from each pixel in the row of pixels,  
the reference circuit comprises a single reference amplifier associated with all of the pixels in the row of pixels, and  
the reference amplifier separately samples in series, one at a time, the respective unique reference voltage for each pixel in the row of pixels, as each pixel in the row of pixels is sampled by a respective one of the ~~plurality of video amplifiers,~~ and  
a differential amplifier receives both, the video voltage and the respective unique reference voltage, sampled in series, from each pixel in the row of pixels, and provides, in series, a corresponding differential voltage output.
2. (Original) The system of claim 1 wherein each of the video amplifiers is associated with all of the pixels in a respective column of pixels.
3. (Previously Presented) The system of claim 1 further comprising a differential amplifier that generates a differential voltage responsive to the video voltage and the respective unique reference voltage associated with each pixel in the row of pixels.
4. (Original) The system of claim 3 wherein the reference amplifier has an output continuously coupled to the differential amplifier during reading of the video voltage of each of the video amplifiers.
5. (Currently Amended) An active pixel sensor array sampling circuit that samples a voltage on each one of a plurality of pixels, the circuit comprising:

a plurality of video circuits, each video circuit generating a video voltage related to a voltage on a respective one of the pixels as its respective pixel is sampled; and

a reference circuit that separately samples a respective unique reference voltage as each pixel in the plurality of pixels is sampled by the video circuits,

wherein the pixels are arranged in columns and rows, the reference circuit is associated with all of the pixels of each row of pixels, and the reference circuit samples the respective unique reference voltage as each video voltage of each pixel in a row of pixels is sampled; and

a differential amplifier receives both, the video voltage and the respective unique reference voltage, sampled in series, from each pixel in the row of pixels, and provides, in series, a corresponding differential voltage output.

6. (Canceled)

7. (Previously Presented) The circuit of claim 5 further comprising a differential amplifier that provides a differential voltage representing a difference between each sampled video voltage and each sampled respective unique reference voltage.

8. (Previously Presented) The circuit system of claim 7 wherein the reference amplifier has an output continuously coupled to the differential amplifier during the sampling of the video voltages for each row of pixels.

9. (Original) The circuit of claim 8 wherein each video amplifier is associated with all of the pixels of a respective column of pixels.

10. (Currently Amended) An integrated circuit including an active pixel sensor array sampling system comprising:

a plurality of video circuits, each video circuit sampling a video voltage from a respective pixel in a row of pixels; ~~and~~

a reference circuit that separately samples a respective unique reference voltage for each pixel in a row of pixels, as each video voltage is sampled by a respective one of the video circuits; and

a differential amplifier receives both, the video voltage and the respective unique reference voltage, sampled in series, from each pixel in the row of pixels, and provides, in series, a corresponding differential voltage output.

11. (Previously Presented) The integrated circuit of claim 10 further comprising a differential amplifier that generates a differential voltage responsive to each read video voltage and its respective sampled unique reference voltage.

12. (Original) The integrated circuit of claim 11 wherein the pixels are arranged in columns and rows and wherein each video circuit is associated with all of the pixels of a respective column of pixels.

13. (Currently Amended) A method of sampling a group of active pixels comprising:  
sampling a voltage on each pixel in a row of pixels to generate a video voltage for each pixel in the row of pixels;  
serially sampling each video voltage; and  
sampling a unique reference voltage, respectively, for each pixel in the row of pixels as each respective video voltage is sampled; and  
receiving, by a differential amplifier both, the video voltage and the respective unique reference voltage, sampled in series, from each pixel in the row of pixels, and providing, in series, a corresponding differential voltage output.

14. (Previously Presented) The method of claim 13 comprising the further step of generating a differential voltage from each sampled video voltage and its associated sampled unique reference voltage.

15-16. Canceled.